Simple Sophistication. The Hang 220015.

Wang's new 2200VS processor adds simplicity to computer sophistication and power.

We call it the new generation of computers because the 2200VS enables the business executive not only to use computer-generated information, but to shape the information as it comes to him, and actively participate in its generation.

Covering a broad spectrum from small to mediumscale computer systems, with additional optional memory, disk drives and a broad choice of peripherals, the 2200VS is so powerful it can meet the needs of about 80 percent of current and potential computer users.

Its features, combined with an outstanding price/performance ratio, make the 2200VS relevant to today's business world.

Relevant: The Wang 2200VS is user-oriented.

Anyone can use it.

Relevant: The Wang 2200VS serves many different types of users and runs many jobs simultaneously.

Relevant: The Wang 2200VS protects your future.

It grows with you as your business grows.

Relevant: The Wang 2200VS is for the first-time user. It offers ease of program development and implementation, power, and a smooth growth path from a small to a medium-scale computer. At a lower price than other systems in its performance range. Relevant: The Wang 2200VS is for the large corporation. Its power, ease of operation and programming contribute uniquely to the benefits of distributed data processing.



Relevant: The Wang 2200VS is useroriented. Call it menu-driven, conversational or interactive. Wang's 2200VS communicates with you and you communicate with it. Through fill-in-the-blanks or selection of a function from a menu on the system's CRT screen.

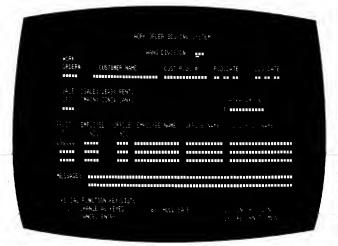
Imagine sitting for the first time in your life before a computer. Your reaction is panic. Your first thought almost certainly is "help!". And there it is, the HELP key. Press it and you get the first system menu. It will lead you through all the steps necessary to do what you want to do.

The HELP key symbolizes Wang's concern with the actual user who, now, can sit down at a computer and get what he or she wants. No other system offers this degree of user interaction.

And, imagine your staff sitting down at a workstation, starting to learn a job simply by answering the computer's questions. The system menu will step your staff through the execution of a program in a way that is almost self-teaching. And when you or your staff do make a mistake, the system is extremely forgiving.

Relevant: The Wang 2200VS handles many users, many jobs. In any company, small or large, there is always more than one job to be done and more than one user to be accommodated. There are orders to enter, goods to be shipped, invoices to be created and printed, inventory to be controlled. You need reports—on stock status, aged accounts receivable, transactions with your vendors, sales commission breakdowns, payroll.

The 2200VS can handle all these jobs, all simultaneously. The system is so responsive you think you have all system resources to yourself.











In addition, the 2200VS, because it is a multi-job, multi-user system with a common data base, has an integrating effect on the applications run on the system. Giving each authorized user access to other users' data files, it integrates the different user functions into one overall system. Relevant: The Wang 2200VS protects your future. Like no other system, the 2200VS protects the future of your business. It can be built from a low-cost, extremely powerful entry-level system to a system that gives you the power of a medium-scale computer at a quarter of the traditional cost of such a system.

Its smallest configuration, the system WCS/60, includes 64K bytes of memory, one workstation, one 10-megabyte disk drive, one diskette drive and a 240 line per minute printer.

Its largest configuration, the system WCS/80, can include up to 23 workstations, up to eight 288-megabyte disk drives, optional 9-track magnetic tape drives, one diskette drive and printers of various speeds.

Spanning a range from 10 megabytes to 2.3 billion of online disk storage and high-speed semi-conductor memory from 64K to 512K bytes, the 2200VS offers expandability which is without parallel in its class.

With a continuous, uninterrupted growth path from a small WCS/60 to an expanded WCS/80 system, with onsite upgrades simply through adding memory and peripherals, your investment remains protected as with no other system. Indeed, your hardware protects your software investment as well. Because your application software runs independent of system size.

Offering telecommunications options with most industry protocols, Wang's 2200VS, no matter in what configuration, can serve as an independent, standalone system or within a distributed data processing network.

Relevant: For the first-time user. The 2200VS's low entry-level price, its power combined with its simple, end-user oriented operation, its expandability, and ease of programming make it truly the first-time user's system.

The 2200VS is a system for you and everyone in your office. You can walk up to it, key in a few responses to the system's screen prompts and get the answers you are looking for, right there and then.

The transition from manual or ledgercard system will be easier than with any other system available to you. One by one, you can transfer your applications to the 2200VS:

- Take the crisis out of order entry and shipment, speed billings and improve cash-flow.
- Take the guesswork out of inventory control, get precise answers when you need them and become aware when stocks drop below critical levels.
- Take the surprise out of order flood or drought, obtain timely seasonal analyses and projections.

The 2200VS is the only system that can give you the benefit of a small to medium-scale computer that you and your people can use and that costs you less than traditional systems.

Relevant: For the large corporation. The large corporation's problem is to distribute computer power throughout its organization, into departments, divisions and subsidiaries, at headquarters and at remote locations, without incurring crippling costs in hardware, software generation and manpower.

The 2200VS, because of its user-oriented features, is particularly well suited for individual departmental needs, including engineering, research and operations research staffs, as well as remote plants and field sales organizations, environments with high expertise in operations management but limited knowhow in data processing techniques.

The 2200VS's modular design not only allows each remote location to configure a system to its specific needs, but most important, one set of application software can be used in different locations on different size configurations.

The payoff of distributed data processing is real. With the 2200VS you will get there sooner.

Powerful: Implementing virtual memory, a new technique for a system in this performance range, the Wang 2200VS easily outperforms systems in its price class. At the high end of its performance range, it competes with medium-scale computers at 25 percent of their cost.

Powerful: Virtual memory operating system dramatically reduces programming effort because there are no system-imposed restrictions.

Powerful: By virtue of its operating system, the Wang 2200VS gives each workstation user the equivalent of a one-million byte computer.

Powerful: You can mix COBOL, BASIC, RPG-II, ASSEMBLER programs for the most flexible implementation of your programming needs.

Powerful: The Wang 2200VS virtual memory system uses system resources more efficiently than other memory management systems.

Powerful: A sophisticated security system protects your files and programs.

Powerful: With up to 2.3 billion bytes of online storage, the Wang 2200VS can satisfy even the largest of data base requirements.

Powerful: The Wang 2200VS offers unique interactive programming and text editing, utilities and symbolic debug features.

Powerful: The Wang 2200VS is backed by a company with worldwide sales and service and a proven 25-year track record in the computer industry.

Powerful: Outstanding price/performance ratio. At the low end, a small 2200VS system with 64K bytes of memory and one or two workstations offers extraordinary processing clout and throughput.

At the high end, a 2200VS, built to full capacity, rivals any medium-scale main-frame at a quarter the price.

In addition, you save when your system must grow. Because there are no costly hardware swap-outs. Your 2200VS enjoys a smooth transition to a larger system simply through onsite hardware add-ons.

You save in staff salaries. Because your 2200VS can be run by your current office staff.

You save because its outstanding programming aids cut software development time. Your programmers are more productive and can put more jobs on the computer faster.

You save because all of the operating system software, the system utilities, the Assembler language and your choice of high-level program language are included in the basic system configuration price.

Powerful: The virtues of virtual memory. Unique for a system in its performance range, the 2200VS offers the advantages of virtual memory operating system:

The operating system, not the programmer, fits a program to the available memory. The programmer is, therefore, free to meet the needs of an application most effectively without regard for program size.

Also, you can use the same software in different locations on systems of different sizes thereby obviating the need to customize software for different volume requirements.

By the same token, system expansion is accomplished simply. Add memory, add disk storage or any other peripheral device. Again, existing software will function without change on your expanded configuration.



Of all operating systems available, virtual memory offers the best way towards performance improvements by adding memory without changes in existing software.

Powerful: The equivalent of a one-millionbyte computer for each user. The 2200VS is designed for many users running different jobs simultaneously.

You enjoy access to the system at any time. There is no waiting in line behind other users. The system makes you feel as if it made all system resources exclusively available to you.

In fact, your and any other users' programs can be as large as one million bytes each

Powerful: Most popular business languages, COBOL, BASIC, RPG-II, ASSEMBLER. The 2200VS offers the business world's most popular language in a standard form, ANSI '74 COBOL.

BASIC is available to provide powerful problem-solving capability. Many features have been added which are particularly useful in commercial applications

RPG-II is a high-level programming language widely used in business data processing applications. Almost completely compatible with other RPG-II applications, the 2200VS RPG-II has been significantly enhanced to make it suitable for interactive applications.

The Assembler language provides the application programmer with access to the powerful general-purpose instruction set of the 2200VS. It contains most of the instructions available on the IBM 360/370 in IBM format. It includes a number of predefined macros and permits user definition of macroinstructions

Powerful: Efficient use of system resources makes for outstanding performance. The 2200VS makes extremely efficient use of existing system resources.

avoids program duplication and increases total performance:

- Users automatically share the same program in memory.
- Often parts of a program, even though necessary, are not used, or used only once, during a particular run. The 2200VS calls such parts of a program into memory only when they are actually being used.
- Data files can be shared by different users and accessed by different keys even with application software written in different languages.

Powerful: Sophisticated security system protects your files and programs. To preserve confidentiality, the 2200VS implements a sophisticated file protection and security system which you can tailor to suit the requirements of your specific applications. It allows you to place all your programs, procedures and data files in one of 28 file protection classes which are directly controlled by the security system administrators.

- For even greater performance, the 2200VS processor is complemented by independent Input/Output Processors Each Input/Output Processor controls several peripheral devices. It handles all data transfers between them and memory, relieves the central processor of overseeing input/output operations and permits input/output processing to proceed concurrently with internal processing.
- For maximum use of peripheral resources, all print output is first saved on disk. When complete, it can be printed at high speed according to priorities you set

Powerful: Extensive online file capability. The 2200VS can satisfy even very large online data base requirements. On the WCS/60 configurations, up to 150 megabytes of disk storage can be accessed. On the WCS/80 configurations, up to 2.3 billion bytes of online disk storage are available.

To conserve disk storage and increase overall system throughput, the 2200VS provides automatic data compaction removing all consecutively repeated characters from each record before storing it on disk and expanding it to its original format when read back.

Powerful: Interactive programming. Using the 2200VS's powerful programming aids. your staff will perform sophisticated operations on the system within minutes.

The symbolic debug facilities are completely interactive and allow the programmer to program and debug online using the system's screen. This means your programmers will write and implement new programs or make program changes with unheard-of ease and speed. The improvement in productivity is dramatic

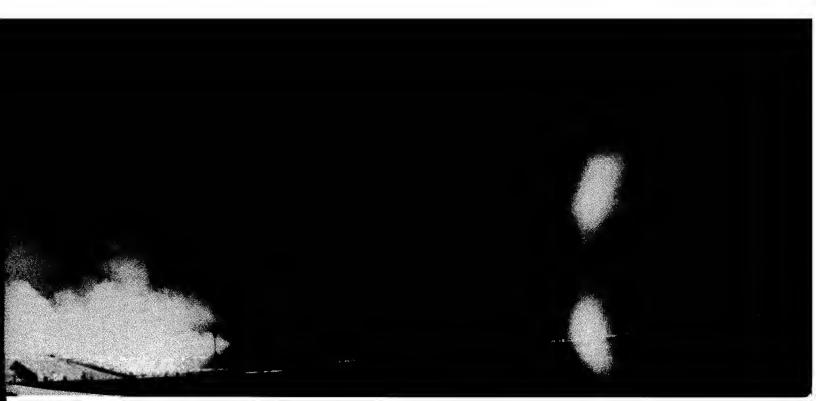
The 2200VS offers an impressive number of source file, object program and other utilities. File handling and file management are made easy through such important system functions as COPY, DISPLAY, PRINT, SORT, REPORT, DUMP, SECURITY and BACKUP.

A powerful system supported by a company with worldwide sales and service.

The 2200VS is the latest in a series of Wang business computers that combine a unique price/performance ratio with ease and simplicity of use—features which put Wang computers squarely into the hands of the end user.

Using this approach, Wang has built a user base of some 20,000 business systems worldwide. Wang has offices in over 100 cities in North America, and an international sales organization in 60 countries. In all, Wang employs over 3200 people with 1800 in direct sales, systems and service support

Wang continues to be listed among the top ten growth companies in the U.S. and its present growth rate is well ahead of that of the computer industry as a whole. In North America and in many parts of the world, Wang is as near as the telephone



North America:

Alabama Birmingham Mobile

Alaska Anchorage Arizona

Phoenix Tucson California

Fresno Inglewood Los Angeles Sacramento San Diego San Francisco San Mateo

Tustin Ventura Colorado Denve

Sunnyvale

Connecticut New Haven Stamford Wethersfield

District of Columbia Washington

Florida Jacksonville Miami Orlando Tampa

Georgia Atlanta Hawaii Honolulu

Illinois Chicago Morton Park Ridge Rock Island

Indiana Indianapolis South Bend

Kansas Overland Park Wichita

Kentucky Louisville

Louisiana **Baton Rouge** Metairie

Maryland Rockville Towson

Massachusetts Boston Burlington Littleton Lowell Tewksbury Worcester

Michigan Grand Rapids Okemos Southfield

Minnesota Eden Prairie

Missouri Creve Coeur Nebraska

Nevada

New Hampshire East Derry

Manchester **New Jersey** Howell Mountainside **New Mexico** Albuquerque

New York Albany Buffalo Lake Success **New York City** Rochester

North Carolina Charlotte Greensboro Raleigh

Syracuse

Ohio Cincinnati Columbus Middleburg Heights Toledo

Oklahoma Oklahoma City Tulsa

Oregon Beaverton Eugene

Pennsylvania Allentown Camp Hill Philadelphia Pittsburgh Wayne

Rhode Island Cranston **South Carolina** Charleston

Columbia Tennessee Chattanooga Knoxville Memphis Nashville

Texas Austin Dallas Houston

San Antonio Utah Salt Lake City Virginia Newport News

Richmond Washington Seattle Spokane

Wisconsin Brookfield Madison Milwaukee

Canada Wang Laboratories (Canada) Ltd. Don Mills, Ontario Calgary, Alberta Edmonton, Alberta Winnipeg, Manitoba Ottawa, Ontario Montreal, Quebec Burnaby, B.C.

International Subsidiaries:

Australia Wang Computer Pty. Ltd. Sydney, NSW Melbourne, Vic. Canberra, A.C.T. Brisbane, Qld. Adelaide, S.A.

Perth, W.A. Darwin, N.T.

Austria Wang Gesellschaft M.B.H. Vienna

Belgium Wang Europe, S.A. Brussels Erpe-Mere Brazil

Wang do Brasil Computadores Ltda. Rio de Janeiro Sao Paulo

China Wang Industrial Co., Ltd. Taipei, Taiwan

France Wang France S.A.R.L. Bagnolet Ecully Nantes Toulouse

Great Britain Wang Electronics Ltd. Northwood Hills, Middlesex Northwood, Middlesex Harrogate, Yorkshire Glasgow, Scotland Uxbridge, Middlesex

Hong Kong Wang Pacific Ltd. Hong Kong

Japan Wang Computer Ltd. Tokyo

Netherlands Wang Nederland B.V.

Ijsselstein New Zealand Wang Computer Ltd. Grey Lynn, Auckland

Panama Wang de Panama (CPEC) S.A. Republic of Singapore

Wang Computer Pte., Ltd. Singapore Republic of South Africa

Wang Computers (South Africa) (Pty.) Ltd. Bordeaux, Transvaal Durban Capetown

Sweden

Wang Skandinaviska AB Solna

Gothenburg Arloev Vasteras

Switzerland Wang S.A./A.G. Zurich Bern Pully

West Germany Wang Laboratories GmbH Frankfurt/M. Berlin

Cologne Duesseldorf Hamburg Hannover Kassel Munich Nuernberg Stuttgart

International Representatives:

Argentina Bolivia Chile Colombia Costa Rica Cyprus Denmark Dominican Republic Ecuador Finland Ghana Greece Iceland India Indonesia Iran Ireland Israel Italy Jamaica

Japan

Jordan

Kenya

Korea

Malaysia Mexico Morocco Nicaragua Nigeria Norway Pakistan Peru **Philippines** Portugal Saudi Arabia Spain Sri Lanka Svria Thailand Tunisia Turkey

United Arab Emirates Venezuela Yugosłavia

WANG

History: Dr. An Wang earned his Ph.D. in Applied Physics at Harvard University. His early work in magnetic core memory development contributed to one of the giant steps that made computers a part of modern life. Reliable, largecapacity memory was one of the biggest needs that had to be filled before the computer could become a commercial reality.

Wang Laboratories, Inc., then started in 1951, with the idea that we could find new and better ways to fill information handling needs.

Since then, we have grown to a \$135 million company, listed among the top growth businesses in the United States.

Our main manufacturing facility is located in Tewksbury, Massachusetts. Another facility in Burlington houses the Wang Data Center.

To accommodate Wang's rapid growth, we recently relocated our administrative headquarters and research and development operations from Tewksbury to a new facility in Lowell, Massachusetts, which almost doubles available floor space.

In North America, we serve our customers through over 100 Wangstaffed sales and service centers

Our worldwide business operations employ some 3,200 people, among them 1,800 highly trained sales and systems specialists and customer engineers. We maintain 50 Wang-owned sales and service offices in 17 countries and are represented in 43 additional countries



Wang Laboratories, Inc.